

For: SEMICONDUCTOR CHIP
PACKAGE

DECLARATION OF JERRY M. BROOKS UNDER 37 C.F.R. § 1.131

4. Mr. Ormiston sent Mr. King and I a first draft of the patent application for review on April 17, 1995 and a revised/final draft for review on May 2, 1995. The finalized application was sent to Micron legal along with the Declaration on May 3, 1995. The Declaration was signed and returned to Mr. Ormiston and the application filed on May 8, 1995. A copy of the transmittals documenting Mr. Ormiston sending

us the first and revised draft patent applications and the final application and Declaration are attached to this Declaration as Exhibits C, D and E.

5. All of the activities noted in paragraphs 1-4 above took place in the United States.

I declare that all statements made in this Declaration of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the patent application or any patent issued on that application.

10/13/05

Date

J. M. Brooks

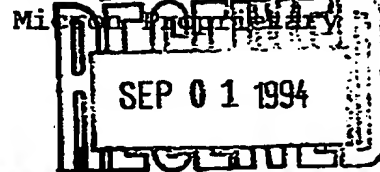
Jerry M. Brooks

Oct 03 05 11:17a

Steven R. Ormiston

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MICRON TECHNOLOGY, INC.
INVENTION DISCLOSURE

1. INVENTOR(S) :

Jerrold L. KingJerry M. Brooks

2. DESCRIPTION

DARPA or Gvt. project? N

2.1 Title of invention: RTP (Real Thin Package)

2.2 General description of the invention: Plastic package for a semiconductor device having a package outline slightly larger than the die. Package would be surface mountable with solder ball and standardized foot print.

2.2(a) Describe what problem the invention is trying to solve: Other slightly larger than the die package have high costs. This system will not have high costs due to continued use of existing technologies and equipment.

2.2(b) Describe what prior solutions have been used to solve this problem:

- i. Tessera, Micro Ball Grid Array
- ii. Mitsubishi, Chip Size Package

2.2(c) Describe the advantages of this invention over these prior solutions:

We could apply existing package technologies and equipment. Other solutions have to use new materials, technologies, and equipment.

2.2(d) Describe how the invention works:

- 1. Leadframe has spot plating of Sn for the solder ball contact area and bondable plating for wire bond connection to the semiconductor.
- 2. LOC lamination and wire bond.
- 3. Encapsulation in moldcompound with dimples in the mold which contact the leadframe. This contact secures the die against the mold. This contact insures exposure of the Sn for the solder ball placement and wetting in a later step.
- 4. External Leads could be formed out side the package for zero insertion force sockets to be used in test/burn-in.
- 5. Test/Burn-in
- 6. Solder ball placement and reflow
- 7. lead removal
- 8. Ship to customer

EXHIBIT A

- 2.3 Please attach documentation: ie.- drawings, sketches and/or a process flow diagram.

See Fig. 1 and Fig.2

- 2.4 Please identify similar/related ideas or disclosures and other companies working in the same field. Attach copies, if available.

See 2.2(b)

3. INFORMATION CONCERNING CONCEPTION OF INVENTION

3.1 IMPORTANT DATES AND ACTIVITIES

- a. Identify the date you first thought of the invention. (If not sure, give the earliest date of which you are sure.)

8/26/94

- b. Identify to whom the idea first described and the date?
(Other than a co-inventor.)

Doug Kelly and Alan Wood 9/1/94
(Conversation with Mike Brooks)

- c. Identify the first date when the invention was reduced to a drawing, written description, computer simulation, etc.
Please specify type and location.

- d. Has the invention been disclosed outside the company? ____
If yes, to whom, when, and in what form?

no

- e. Have any articles describing your invention been published?
If yes, list author(s), title of article, publication and date.

no

- f. Have any engineering samples been given out? no If yes, to whom and on what date?

- g. Has any product using the invention been sold or offered for sale? no If yes, to whom and on what date?
- h. When will (or did) Micron begin use of the invention experimentally?
- TBD
- i. When will (or did) Micron begin production of this invention?

3.2 MISCELLANEOUS INFORMATION

- a. Was the invention developed during a joint development agreement or other contract with an outside company? ____

no

- b. Please list developmental work outside of the company:
- c. Was this invention conceived or first reduced to practice in the performance of work under a Government funded project (including DARPA-funded projects)? IF YES, check "DARPA project" on the front page.

5. INVENTORS:

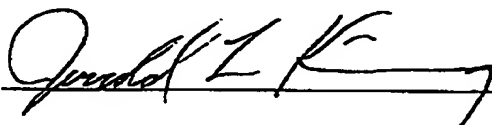
Name: Jerrold L. King Micron Phone: X4714

Company Name: M.S.I. Dept. Name: Assembly Dept. #: 200
(Subsidiary)

Street Address: 5799 Drawbridge Boise Id. 83703
(Street) (City) (State) (Zip)

Citizenship: U.S.A.

Supervisor: Steve Thummel

Signature:  Date: 9/1/94


Name: Jerry M. Brooks Micron Phone: X3167

Company Name: M.S.I. Dept. Name: Assembly Dept. #: 200
(Subsidiary)

Street Address: 3116 S. Florida Caldwell
(Street) (City) (State) (Zip)

Citizenship: U.S.A.

Supervisor: Doug Kelly

Signature:  Date: 9/1/94

Rx Date/Time

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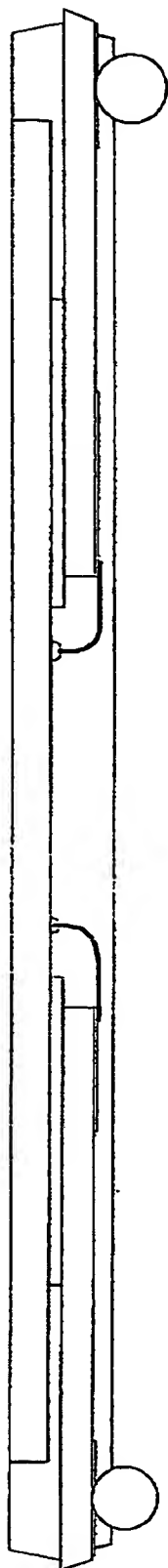
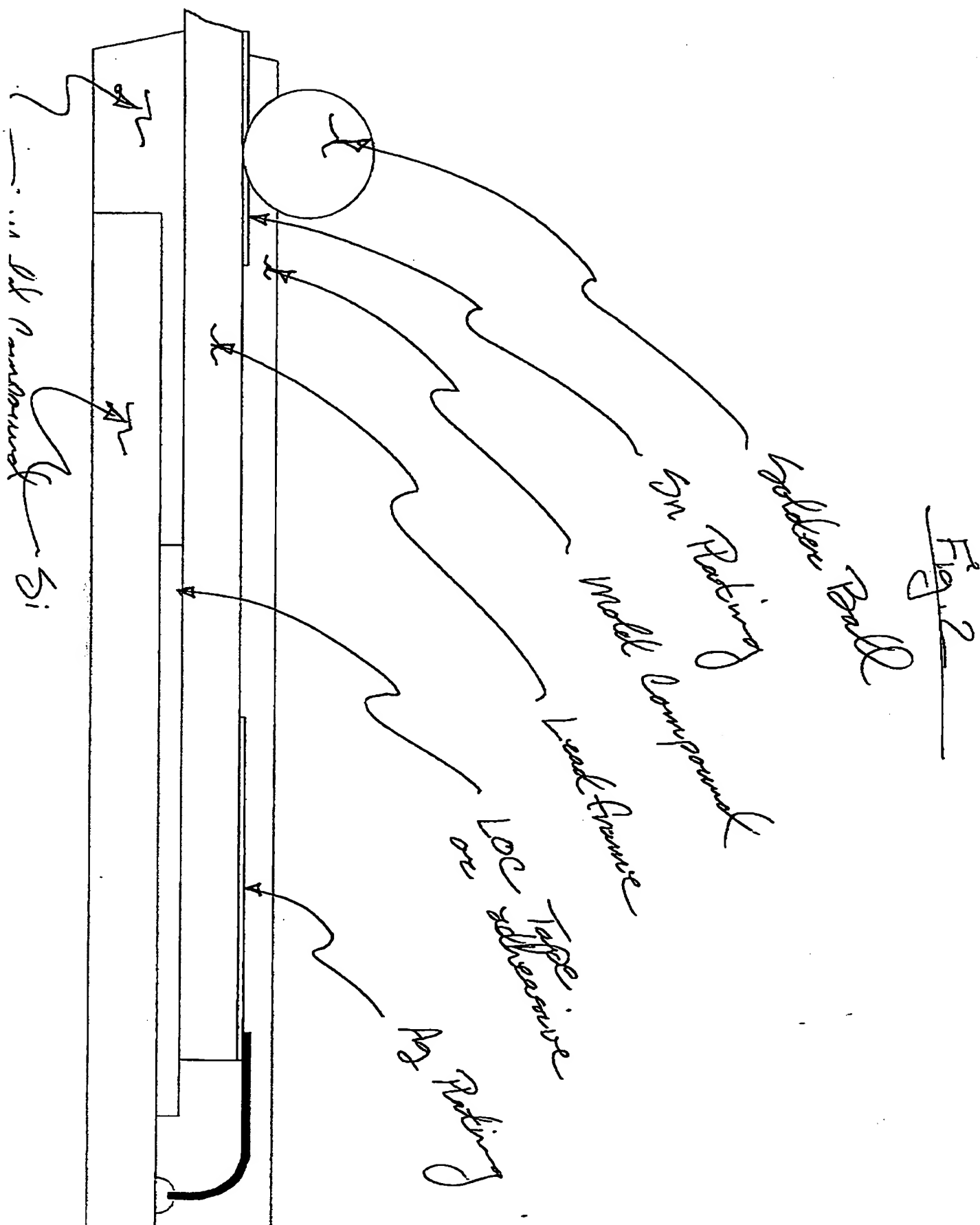


Fig. 1



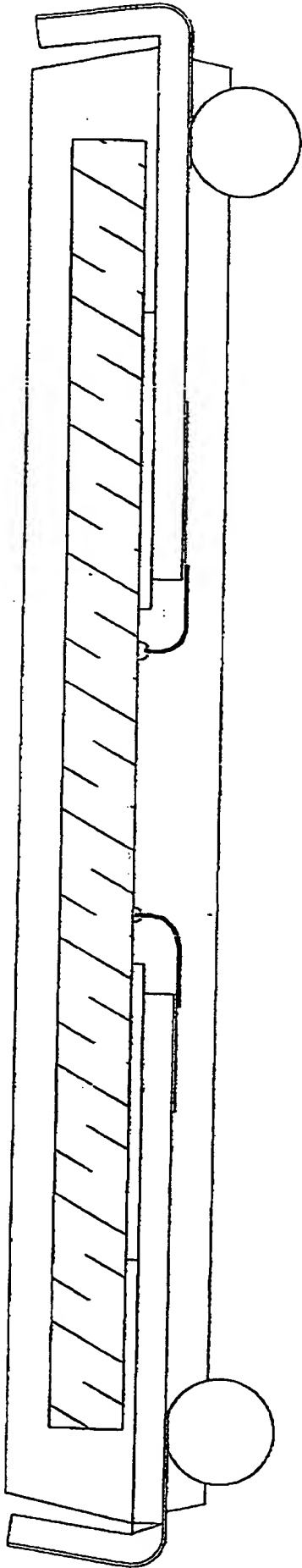


Fig 3

Thicker Version

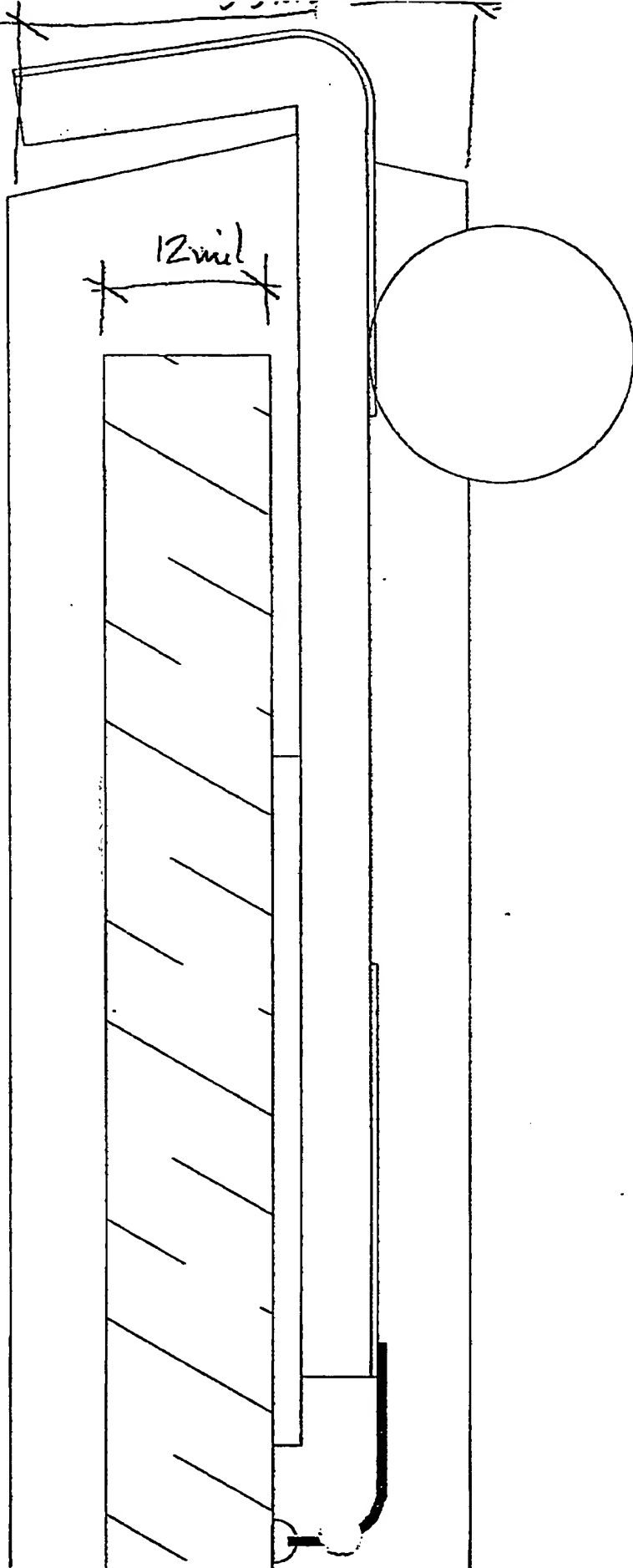


Fig 4
Thicker Version

Micron Docket Number: 94-0256

O/A Docket Number: _____

Micron Patent ChecklistTitle of Disclosure: RTP (REAL THIN PACKAGE)Inventor(s): J. King, J. Brooks

ARPA: This invention was _____, was not _____, conceived or first reduced
to practice in the performance of an ARPA-funded project.

DISCLOSURE:

Date: _____ Init: _____

Attorney/Agent: _____

Possible Time Bar Date: _____

9-9-94

Patents Program

☒ Enter 'Disclosed' in 'File Status' field☒ Enter date disclosed

Patent Disclosure Review completed by Attorney/Agent

File sent to Patent Committee

File returned to Patent Department from Patent Committee

E-Mail to inventor(s) regarding file status

INACTIVE DISCLOSURES:_____

Attorney/Agent statement (reason for inactivating file)_____

E-Mail sent to inventor(s); copy of E-Mail in file folder_____

Patents Program_____
Change 'File Status' to 'Inactive'_____
Enter date file inactivated_____
Enter 'unassigned' in 'Attorney/Agent' field_____

Move file to respective file drawer**ASSIGNING ATTORNEY/AGENT:**2-3-95 mom File assigned to Attorney/Agent: Steven Ormiston2-3-95 mom Patents Program☒ Enter name of Attorney/Agent☒ Enter date assigned

STEVEN R. ORMISTON

REGISTERED PATENT ATTORNEY

350 N. 9th St., Suite 304

P.O. Box 2894

Boise, Idaho 83701-2894

TELEPHONE (208) 387-0454

FAX (208) 344-3103

PATENTS, TRADE SECRETS,
TRADEMARKS, COPYRIGHTS AND
TECHNOLOGY RELATED CAUSES

April 17, 1995

VIA FAX (208) 368-3339Jerrold L. King
Jerry M. Brooks
Micron Technology, Inc.
Mail Stop 200
2805 East Columbia Rd.
Boise, ID. 83706Re: Disclosure No. 94-256
Real Thin Package

Gentlemen:

Enclosed for your review is a draft patent application in the above referenced case. Accompanying the draft are preliminary sketches for Figs. 1-3. The drawings should be done tomorrow or Thursday for Figs. 1-4. I will wait to prepare Figs.5-7 until your review of the draft materials.

Items for which I have questions or which need additional details are noted by bold print. I am available at your convenience to review the draft application. Thank you for your prompt attention to this matter.

Sincerely,


Steven R. Ormiston

Enclosures

EXHIBIT C

STEVEN R. ORMISTON
Attorney and Counselor

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P.O. Box 2894
Boise, Idaho 83701-2894

Telephone: (208) 387-0454
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FAX COVER SHEET

May 2, 1995

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TO: Jerrold L. King
Jerry M. Brooks
Micron Technology, Inc.
Mail Stop 200
2805 East Columbia Rd.
Boise, ID. 83706
FAX number: (208) 368-3339
Voice number: (208) 368-4714

FROM: Steven R. Ormiston, Esq.
SRO File: Micron 94-256

PAGES: Number of pages, including this cover sheet: 16

CALL BACK: If the transmission to you was incomplete or not legible, please call the individual above listed at (208) 387-0454 or call the FAX operator at (208) 344-6208.

ADDITIONAL MESSAGE: Final draft patent application and drawings are enclosed for your review. The Declaration and Assignment papers will be available tomorrow for your signature. Please let me know if any additional changes should be made to the application.

EXHIBIT D

STEVEN R. ORMISTON

ATTORNEY AND COUNSELOR
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P.O. Box 2894
Boise, Idaho 83701-2894

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May 3, 1995

Monica Atkinson
Patent Department, Mail Stop 525
Micron Technology, Inc.
2805 East Columbia Rd.
Boise, ID 83706

Re: Micron Disclosure No. 94-256
RTP (Real Thin Package)


Dear Monica:

The following documents are enclosed:

1. One copy of the patent APPLICATION;
2. One set of DRAWINGS;
3. Original DECLARATION and POWER OF ATTORNEY; and
4. Original ASSIGNMENT.

Please present the Declaration and Power of Attorney and Assignment to Messrs. King and Brooks for their signatures and return the same to me for inclusion in the application package we will be filing with the Patent and Trademark Office.

Sincerely,



Steven R. Ormiston

Enclosures

EXHIBIT E